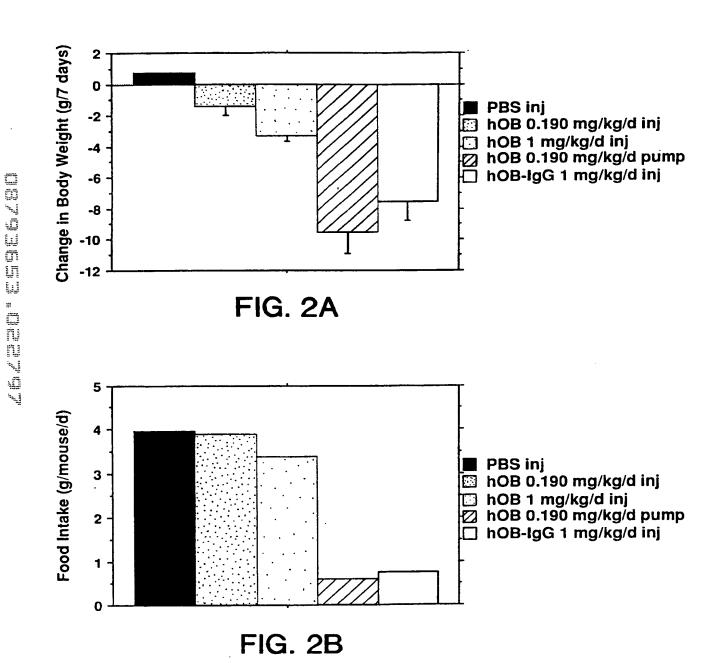
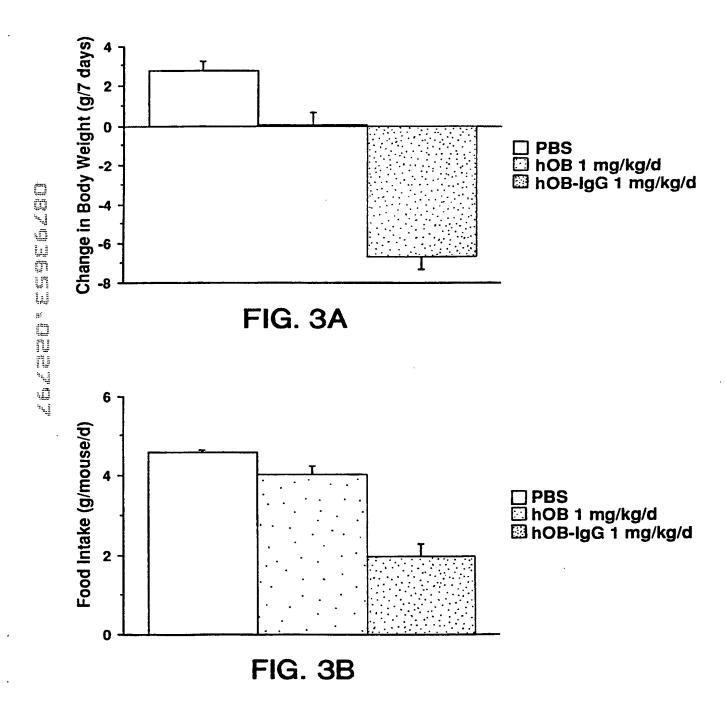


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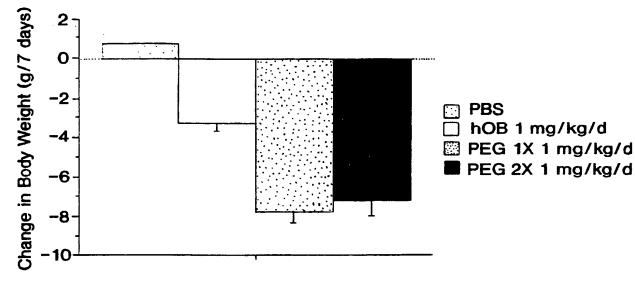
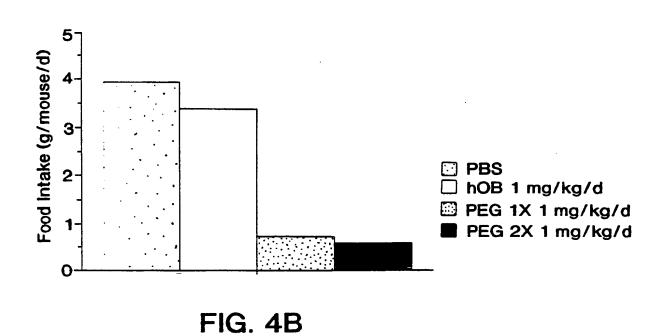
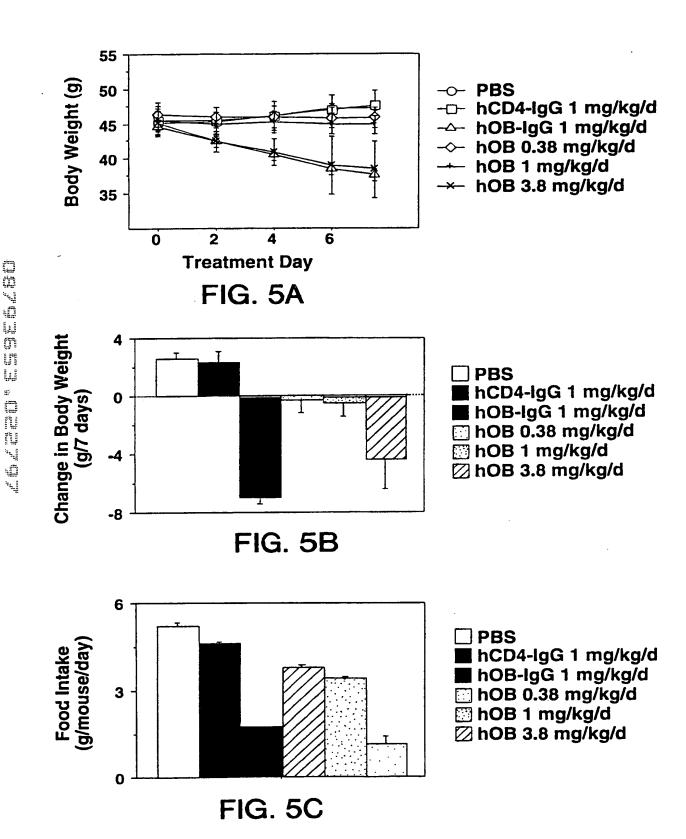


FIG. 4A



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AACTGCAGTI ACCCACCICA TAAAIGCCAI IIGACGGGIG AACEGICAIG IAGIICACAI AGIAIACGGI ICAIGCGGGG GAIAACIGCA GIIAACGGCA TIGACCICAA IGGGIGGAGI AITIACGGIA AACIGCCCAC IIGGCAGIAC AICAAGIGIA ICAIAIGCCA AGIACGCCCC CIAIIGACGI CAAIGACGGI 1 TICGAGCICG CCCGACATIG ATTATIGACT AGTIATIANI AGTAAICAAI TACGGGGICA TIAGIICAIA GCCCAIAIAI GGAGTICCGC GITACAIAAC AAGCICGAGC GGGCIGIAAC TAATAACIGA ICAATAATIA ICAITAGITA AIGCCCCAGI AAICAAGIAI CGGIAIAIA CCICAAGGCG CAAIGIAIIG 101 TTACGGTAAA TGGCCCGCCT GGCTGACCGC CCAACGACCC CCGCCCATTG ACGTCAATAA TGACGTATGT TCCCATAGTA ACGCCAATAG GGACTTTCCA aatgccattt acc**gggcgga ccgactggcg g**gttgctggg ggcgggtaac tgcagtatt actgcataca agggtatcat tgcggttatc cctgaaaggt fnuDII/mvnI acil maelll ahall/bsaHI hinl1/acy1 **bsh1236I** bstuI thaI maeII aatII maeIII csp61 bslI maeII ahall/bsaHI hin11/acyI maeII aatll csp6I rsal asel/asnl/vspl acil tru91 mseI bglI maeI spel asul apyl[dcm+] ecoRII haeIII/palI BCrFI bglI bstNI dsav mvaI acii Bau96I aha II/bsaHI hinlI/acyI ec11361I **bsp1286 bsiHKAI** banII maeII bmyI aatII taqI 201

ss.pRK5tkneo.hOB1gG

>human OB Clal/BstEII cloning

>CMV enhancer/promoter

aluI

hgiAI/aspHI

hgiJII

saci

sstl

> length: 7127 (circular)

> sites: std

nialii styi _	loou	dsal hphl acil	bsaJI sfaNI	301 AAATGGCCCG CCTGGCATTA TGCCCAGTAC ATGACCTTAT GGGACTTTCC TACTTGGCAG TACATCTACG TATTAGTCAT CGCTATTACC ATGGTGATGC	tttaccegec ggaccetaat acgegtcatg tactegaata cectgaagg atgaaccete atgtagatec ataateagta gegataateg taccactace		nlaIV	hgici	DanI	AGCGGTTTGA CTCACGGGGA TTTCCAAGTC TCCACCCCAT TGACGTCAAT GGGAGTTTGT TTTGGCACCA	ACTGCAGTTA CCCTCAAACA AAACCGTGGT	aluī	sstI	Baci	IICIGH	hgiAI/aspHI	ec1136II	bsp1286	DSIHKAI	bmyI	DanII	A CAACTCCGCC CCATTGACGC AAATGGGCGG TAGGCGTGTA CGGTGGGAGG TCTATATAAG CAGAGCTGGT I GTTGAGGCGG GGTAACTGCG TTTACCCGCC ATCCGCACAT GCCACCCTCC AGATATATTC GTCTCGAGGA	
				ATTAGTCAT CG	TAATCAGTA GC	maell	hinll/acyl	aha[]/bsaH]	aatII	GACGTCAAT GC	CTGCAGTTA CC										mull	GGTGGGAGG TC	
,		rsal snaBl	csp6I bsaAI	TACATCTACG T	ATGTAGATGC A				H	TCCACCCCAT TO	ACGTCCCCTA A									rsal	19dso	TAGGCGTGTA C ATCCGCACAT G	
		rs	S	TACTTGGCAG	ATGAACCGTC				bsmAI	TTTCCAAGTC	TCCCCAAACT GAGTGCCCCT AAAGGTTCAG AGGTGGGGTA										acil	AAATGGGCGG	
				: GGGACTTTCC	CCCTGAAAGG			plei	nfl	CTCACGGGGA	. GAGTGCCCCT									·	hgal	CCATTGACGC GCTAACTGCG	
		H	nlaIII	: ATGACCTTAT	: TACTGGAATA				acil hi		_										III acii	CAACTCCCCC	
•	rsal	dso Cab	bsrI	TGCCCAGTAC	ACGGGTCATO					. CGCCGTCGAT	CCCGCACCTA										mael	AATGTCGTAA	
acil bgli dsav	sau96I bstNI	/pall	apy1(dcm+)	CCTGGCATTA	: GGACCGTAAT			rsal	csp61	GTACATCAAT	CCAAAACCGT CATGTAGTTA CCCGCACCTA											AAATCAACGG GACTTTCCAA TTTAGTTGCC CTGAAAGGTT	
acir bgli de	196nes	haellI/pall	asuI	1 AAATGCCCCG	TTACCGGG				•	401 GGTTTTGGCA GTACATCAAT GGGCGTGGA1	CCAAAACCGI											501 AAATCAACGG GACTTTCCAA AATGTCGTA TTTAGTTGCC CTGAAGGTT TTACAGCAT	
				301						40]												80	

FIG. 6B

scrfi mvai ecoRII

GATCCAGCCT CCGCGGCCGG GAACGGTGCA

alwi[dam-] acii cauli

dpnII[dam-] bshl236I

mbol/ndell[dam-] hpall dpnI[dam+] bsaJI dsaV

sau3AI mnlI bstUI

Idem

llsd llgd ncil

BCrFI

kspI dsal fnuDII/mvnI tru9I

fnudHI

acil

thaI

asel/asnl/vspl

bsh1236I

bsaJl

Inse

scf1 hinf1

styl

sau961

acil

bstXI

pleI scfI haeIII/pall

bstuI

nsel

fnuDII/mvnI fnu4HI aciı nspBII thaI sacII/sstII sau96I

avall asuI

SCLFI ncil nlalV

bstNI hinlI/acyI

esp3I

mval bsmAI

BCrFI

ecoR11

dsav

saulAI gsuI/bpmI

apy1 (dcm+)

hpalI Caull Idsm dsaV bpuAI I I oqu bbsI mn l I

601 TTAGTGAACC GTCAGATCGC CTGGAGACGC CATCCACGCT GTTTTGACCT CCATAGAAGA CACCGGGACC fokI mbol/ndell[dam-]

dpnII(dam- | ahaII/bsaHI dpn1[dam+] hgaI

AATCACTIGG CAGICIAGCG GACCICIGCG GTAGGIGCGA CAAAACIGGA GGIAICITCI GIGGCCCIGG CTAGGICGGA GGCGCCGGCC CTIGCCACGI *Begin RNA

thal hinfl tfii acii

Invm/IIdun bstuI

701 TIGGAACGCG GAITCCCCGI GCCAAGAGIG ACGIAAGIAC CGCCIAIAGA GICIAIAGGC CCACCCCCII GCCIICGIIA GAACGCGGGI ACAAIIAAIA csp61 maell rsal maelll bsh1236I

AACCTIGGGG CTAAGGGGCA CGGTTCTCAC IGCATICAIG GCGGAIAICI CAGAIAICG GGTGGGGGAA CCGAAGCAAI CIIGGGGCGA IGIIAAIIAI ^sp6 promoter

FIG. 60

sau961 avaII

Inse

SCFFI

mvaI

ecoR11

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CCACTCCCAG GTCCAACTGC

apyI[dcm+]

bell beal

bstNI

dsav

GTATTGGAAT ACATAGTATG TGTATGCTAA ATCCACTGTG ATATCTTATT GTAGGTGAAA CGGAAAGAGA GGTGTCCACA GGTGAGGGTC CAGGTTGACG

fokI

^sp6 RNA start

801 CATAACCITA IGIAICATAC ACAIACGAIT IAGGIGACAC TATAGAATAA CAICCACITT GCCTIICICI CCACAGGIGI

scfl

maell1 hph1

Met HistrpGlyt hrleuCysGl yPheLeuTrp LeuTrpProf yrLeuPheTy rValGlnAla ValProlleG lnLysValGln TGGAGCCAAG ATAGCTATAC GTAACCCCTT GGGACACGCC TAAGAACACC GAAACCGGGA TAGAAAAGAT ACAGGTTCGA CACGGGTAGG TTTTCAGGT 901 ACCTOGGITO TATOGATATO CATIGGGGAA CCCIGIGGG ATTOTIGIGG CTTIGGCCCT ATCTITICIA IGICCAAGCT GIGCCCAICC AAAAAGICCA Idsm bsaWI agel maellI hphI bmyl foki hpall cfrl0I **bsp1286** aluI E I **bsmAI** hae[11/pall 196nes asul mbol/ndell[dam-] dpn1[|dam-] dpn1[dam+] maeIII alwi[dam-] apy [| dcm+] sau3AI hinfI tf11 ecoR11 acil bstnI BCFFI dsav mva I hohl *human OB start nlaIV muni taqI nsil/avaIII ppu10I clal/bsp106 muli ^cloning linker bsaJI mnll

1001 AGATGACACC AAAACCCTCA TCAAGACAAT TGTCACCAGG ATCAATGACA TTTCACACAC GCAGTCAGTC TCCTCCAAAC AGAAAGTCAC CGGTTTGGAC

AGTICICITA ACAGIGGICC INGITACIGI

TCTACTGTGG TTTTGGGAGT

Aspaspithr Lysthrieul leLysthril eValthrarg ileasnaspi leSerHisth rGlnSerVal SerSerLysG lnLysValth rGlyLeuAsp

AAAGTGTGT CGTCAGTCAG AGGAGGTTTG TCTTTCAGTG GCCAAACCTG

901

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bbvI asuI

fnudHI

Idsu

IIBqan

IInad

avall

aluI

hphI

I Tum

bsp1286

banII bmyI

hgiJII

scrFI

27

	10/27
mbol/ndell[dam-] dpnl[dam+] dpnll[dam-] alwl[dam-] maell cccttcc AGAACGTGA tProSer ArgAsnValile	haefii/pali au96i styl sul gsul/bpmi i scrFi mval bsmAi coRii dsaV bstNi bsaJi
sau3AI bsrI mbol/ndeil(dam-) dpnl{dam+)	haeffi sau961 asul scrf! sc mvaf ecoRII ecoRII dsav ds
alwni sli sli avali asul TGGACCAGAC ACTGGCAGTC TP ACCTGGTCTG TGACGTCAG A1	pml1 sau3Al eco72I bstYl/xhoI1 scrFl bsaAl abo1/ndeII dam- mspl dpn1 dam+ mbo11 maef1
mval nlalV ecoRII. dsaV bstNI bsaJI apy1{dcm+} fokI tTCATTCTG GGCTCCACC CATCCTGACC ATACGTTCT AAGTAAGGAC CCGAGGTGG GTAGGACTCG AATACGTTCT phelleProG lyLeuHisPr olleLeuThr LeuSerLysH	sau3AI bstYl/xhoII gsul/bpml scrFI scrFI nciI mbol/ndeII dam-} mval mspl dpnl(dam+)

1101 TICATICCIG GGCICCACCC CAICCIGACC TIAICCAAGA TGGACCAGAC

GlnlleSe rAsnAspLeu GluAsnLeuA rgAspLeuLe uHisValLeu AlaPheSerL ysSerCysHi sLeuProTrp AlaSerGlyL euGluThrLeu AGGITIATAG GITGCIGGAC CICITGGAGG CCCIAGAAGA AGIGCACGAC CGGAAGAGAI ICICGACGGI GAACGGGACC CGGICACCGG ACCICTGGAA 196nes

1201 TCCANATATC CAACGACCTG GAGAACCTCC GGGATCTTCT TCACGTGCTG GCCTTCTCTA AGAGCTGCCA

apyl[dcm+] caull mboll[dam-]

CTTGCCCTGG GCCAGTGGCC TGGAGACCTT

bsrI haelII/pall

bsaji

bsal

apyl[dcm+] hael

bbv1

haelll/pall

mnli alwidam-1 bbrPi

bstNI dsav

bstXI

dsav dpn[I[dam-]

ecoRII hpall

haeI

ddel alul fuu4HI

apyI[dcm+]

bstXI

bsaJI

nlaIII **DSmAI** pstI scfI fnu4HI bsql haeIII/palI scfl pstI sau96I XCMI bstNI hindIII eco57I aluī scrFI dsav ecoRII ecoRII mval dsaV bsaJI **bstNI** BCrFI mval

1301 GGACAGCCTG GGGGTGTCC TGGAAGCTTC AGGCTACTCC ACAGAGGTGG TGGCCCTGAG CAGGCTGCAG GGGTCTCTGC AGGACATGCT GTGGCAGCTG CCCAGAGACG TCCTGTACGA CACCGTCGAC AspSerLeu GlyGlyValL euGluAlaSe rGlyTyrSer ThrGluValV alAlaLeuSe rArgLeuGln GlySerLeuG lnAspMetLe uTrpGlnLeu IHdsu bsal bsql CCTGTCGGAC CCCCCACAGG ACCTTCGAAG TCCGATGAGG TGTCTCCACC ACCGGGACTC GTCCGACGTC bbv I asul bstXI mnlI apy1[dcm+] apyI[dcm+]

SUBSTITUTE SHEET (RULE 26)

T96nes		mval avall	ecorii	AsaV	bstwl asul mboll mboll	۲	bmyr alwnr apyr (dcm+) bbsr mnlr	AAAACTCACA CAIGCCCACC GIGCCCAGCA CCIGAACICC IGGGGGGACC GICAGICIIC CICIICCCCC	TITICACICI CIACCCCICC CACCCCCTC CCACTICACC ACCCCCTCC CACTCACAAG CACAAGGGGGG	LysthrHist hrCysProPr oCysProAla ProGluLeuL euGlyGlyPr OSerValPhe LeuPheFlOPro ; a olv	CH3									nlI			ul maell bbsl bsu361/mstII/saul_bsrI bsaAI	: GGACCCCTGA GGTCACATGC GTGGTGGTGG ACGTGAGCCA CGAAGACCCT GAGGTCAAGT TCAACTGGTA	; CCTGGGGACT CCAGTGTACG CACCACCACC TGCACTCGGT GCTTCTGGGA CTCCAGTTCA AGTTGACCAT	rgthrProGl uValthrCys ValValValA spValSerHi sGluAspPro GluValLysP heAsnTrpTyr	
					hoh	maelii				-	START OF HUMAN 19G1 CH2CH3	sau961	nlalV	Idsm	hpall	scrFI	ncil	dsav		nlaili cauli mnli nspi	rcal dpn1[dam+] ddel nspHI	bspHI(dam-) asul eco811 maeIII	mnlI dpnII(dam-) bsu361/mstII/sauI	CCCIC AIGAICICC GGACCCCIGA GGICACAIG	GGGAG TACTAGAGGG CCTGGGGACT CCAGTGTAC	_	
Inam	ecoRII	dsaV	batni	psll		dder apvidcm+1		1401 GACCTCAGCC CTGGGTGCGG GGTCACCGAC	CTGGAGTCGG GACCCACGCC CCAGTGGCTG	162 AspLeuSerP roGlyCysGl yValThrAsp												styl		1501 CAAAACCCAA GGACACCCTC ATGATCTCCC	GTTTTGGGTT CCTGTGGGAG TACTAGAGGG	196 LysProLy sAspTh	

scrFI mval ecoRII dsav hphI ecoNI bstNI bslI apyI{dcm+} GTGGTCAGCG TCCTCACCGT CCTGCACGG CACCAGTGGCA GGACGTGGTC ValValSerV alLeuthrVa LeuHisGIn	fnu4HI taqi ATCGAGAAAA CCATCTCCAA AGCCAAGGG CAGCCCCGAG TAGCTCTTTT GGTAGAGGT TCGGTTTCCC GTCGGGGCTC IleGluLysT hrileSerLy sAlaLysGly GlnProArgGlu	scrFI mspl hpall dsav cauli xmal/pspAl smal scrFI scrFI scrFI smal dsav dsav dsav dsav dsav scauli bslNi bslNi bslNi bslI bsaJI bslI scrAI scrCartccc GGGAGAGAC CAGGTCGC TGACAGCC TACACAGC CCCCATCCC GGGAGAGAC CAGGTCGC ACCCACCC CCCCATCCC GGGAGAGAC ACCCACCC CCCCATCCC GGGAGAGAC CAGGACC CCCCATCCC GGCAGAGAC CAGGACCC CCCCATCCC GGCAGAGAC CAGGACC CCCCATCCC GGCAGAGAC CAGGACC CCCCATCCC CCCCATCCC CCCCATCCC CCCCATCCC CCCCATCCC CCCCATCCC CCCCATCCC CCCCCATCCC CCCCATCCC CCCCATCCC CCCCATCCC CCCCATCCC CCCCATCCC CCCCATCCC CCCCATCCC CCCCATCCC CCCCATCCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCCC CCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCC CCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCATCC CCCCATCC CCCCATCC CCCATCC CCCCATCC CCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCCATCC CCCATCC CCCCATCC CCCCCATCC CCCCCCC CCCCCC CCCCC CCCCCC CCCCCC CCCC	
rsal csp61 mae11 bsaAl CACGTACCGT G7	taqi ATCGAGAAA CCATCTCCAA TAGCTCTTTT GGTAGAGGTT IleGluLysT hrileSerLy	scrFI ecoRII dsaV bstNI apyI[dcm+] bspMI	euThrCysLe u
rsal csp61 AGTACAACAG TCATGTTGTC	mnli ACAAAGCCCT CCCAGCCCCC TGTTTCGGGA GGGTCGGGGG snLysAlaLe uProAlaPro	scrFI mval ecoRil dsav bstNI apyl[dcm+] sexAl AGAAC CAGGTCAGG	ysAsn GlnValSerL
bstul bsh12361 sacII/sstII nspBII kspI dsaI dsaI bsaJI aciI fnu4HI mnlI fATATGCCAA GACAAAGCCG GGGACGAGC TATTACGGT CTGTTTCGC GCCTCCTCG i8AsnAlaLy sThrLysPro ArgGluGluG	sal csp61 bsal GTACAAGTGC AAGGTCTCCA ACAAAG CATGTTCACG TTCCAGAGGT TGTTTC uTyrLysCys LysValSerA snLysA	scrfi ncil mspl hpall dsav cauli xmal/pspAl smal scrfi scauli bsli bsal scauli bsli bsal scrii scri	Proprosera rggluglume tThrLysAsn GlnValSerL euthrCysLe uValLysGly PheTyrPros
mnli cgrggacgc grggaggrgc gcaccrgccg caccrccacg	bsri Gactgctga atggcaagga Ctgaccgact taccgttcct AsptrpLeua snglyLysgi	rsal csp61 bsp14071 AACCACGGT GATCACCTG	ProGlnVa lTyrThrLeu
1601	1701	1801	296

1	3	/	2	7

	1	3/27
dsal hphi alul bsaJI CAAGCTCACC GTTCGAGTGG	scrFI ncil mspI sapI sapI sapI dsav mboII mnlI bsmAI earI/ksp6321 bslI caulI ACTACACGCA GAGAGCCTC TCCTGTCTC TGATGTGCGT CTTCTCGGAG AGGGACAGAG	alui alui fuudii bbvi aacttgtt tattgcagct ttgaacaa ataacgtcaact
mnli nlalv mboli scfi GCCTCCTTCT TCCTCTACAG CCGAGGAAGA AGGAGATGTC GlySerPheP heLeufyrSe	sapi mboli mnli bs eari/ksp6321 bsli ta GAAGAGCCTC TCCCTGT TTCTCCGAG AGGGACA	sau961 h111 hael1/pal1 l l l asu1 rGGC CCAACTTGT7 ACCG GGTTGAACAA
nlaIV mb AC GGCTCCTTC TG CCGAGGAAG SP GlySerPhe	CC ACTACACGC	sau nlaili fnu4HI hae bgli styl sfii ncol eael dsal cfri bsaJI alui haeIII/pali hindili acil asu hacctrcc cccccatccc
pleI hinfI SCT GGACTCCG CGA CCTGAGGC	I I GCT CTGCACAA CGA GACGTGTT Ala Leuhisas	cfi sti e hindii c ssgi alui shi hindii TCC AGAAGCTT
mnll ACGC CTCCGT TGCG GAGGGCA	nlaIII ppul0I nsiI/avaIII sfaNI mnlI iTCAT GCATGAGG	taqi plei scfi rmal sali psti xbal hincil/hindii alui maei acci bsgi hindiii hinfi bspHi A AGCTTCTAGA GTCGACCTGC AG
ACTAC AAGACC TGATG TTCTGG SNTYF LYSTHY	I nlalii CTCAT GCTCCO	scfi 1/hindil xl pstl xl bsgi alul i bspMi hindili ACCTGCAGA AGCTT
mspl hpall fnu4Hl ccACCCGA GAACA ccTCGCCT CTGT	mboli bpual maeli xmnl bbsi asp700 cccaac ctctTc	taqi sali plei scfi rmal hincil/hinc sau96i hinfi psti haeIII/pali bsgi asui maei acci bspMi cG CCCTAGAGTC GACCTGG
mspl hpall hpall flu4H1 flu4H1 bbv1 1901 CGTGGAGTGG GAGAGCAATG GGCAGCCGGA GAACAACTAC AAGACCACG CTCCCGTGCT GGCTCCGAC GGCTCCTTCT TCCTCTACAG CAAGCTACG GCACCTCACC CTCTCGTTAC CCGTCGCCT CTTCTTGTGTGC GAGGGCACGA CCGAGGAAGA AGGAGATGC GTTCGAGGTGG 329 ValGluTrp GluSerAsnG lyGlnProGl uAsnAsnTyr LysthrThrP roProValle uAspSerAsp GlySerPheP heLeuTyrSe rLysteuThr	mboli bpual bpual maeli maeli nsil/avalii bspMi bbvi asp700 nlalii sfaNi mnli caccoccoc gcaccocc gcaccoccoc gcaccoccoccoc gcaccoccoc gcaccoccoccoc gcaccoccoc gcaccoccoccoccoccoccoccoccoccoccoccoccocc	tagi sali sali sali sali plei scfi bgli styl plei scfi ncol rmal hincli/hindii rmal sali psti eael dsal haelil/pali psti cfri bsali finutHi saugei hinfi psti cfri bsali finutHi saugei hinfi psti cfri bsali finutHi saul mael acci bspHi hindii bspHi hindii acii asul bbvi GCCCTAAATG AGGCGACG CCCTAGAGTC GACTGCACTGG CCGCATGGC CCAACTTGTT TATTGCAGCT GCCCATTAC TCAGGTGC GGGATCTCAG TGGACGTCT TCGAAGATCT CAGTGGACG TCTTCGAACC GGCGGTACCG GGTTGAACAA ATAACGTCGA GCCCATTAC TCAGGTGC GGGATCTCAG CTGGACGTCT TCGAAGATCT CAGTGGACG TCTTCGAACC GGCGGTACCG GGTTGAACAA ATAACGTCGA GCCCATTAC TCAGGTGCT TCGAAGATCT CAGTGGACG TCTTCCAACC GGCGGTACCG GGTTGAACAA ATAACGTCGA GCCCATTAC TCAGACTCT TCGAAGATCT CAGTGGACG TCTTCCAACC GGCGGTACCG GGTTGAACAA ATAACGTCGA CCCCATTACA ACCCATCTCAGA ACCTTCGAAGATCT CAGTGGACG TCTTCCAACC GGCGGTACCG GGTTGAACAAA ATAACGTCGA CCCCATTACA ACCATCGAACACT TCGAAGATCT CAGTGGACG TCTTCCAACC GGCGGTACCG GGTTGAACAAAAAAAAAA
CGTCGAGTGG GA GCACCTCACC CT ValGlutrp G1	DE GTGGACAAGA GC CACCTGTTCT CC Valasplyss e1	CGGGTAATG ACGCCATTTAC TO
1901	362	2101

H9 FIG.

maelli 2201 tataatggtt acaaataagg caataggatg acaaatatga gaaataaagg attittittga gtgggttgtggtt gtggaagtg atgaatgtat Atattaggaa tgtttattgg gttatggtag tgtttataagt gtttatttgg taaaaaaagt gaggtaagat gargacgaaa gaggtttgag tagttagata

rma [

SCIFI

sfaNI

nlaIV scrFI

^sv40 origin

2301 CTTATCATGT CTGGATCGAT CGGGAATTAA TTCGGCGCAG CACCATGGCC TGAAATAACC TCTGAAAGAG GAACTTGGTT AGGTACCTTC TGAGGCGGAA GAATAGTACA GACCTAGCTA GCCCTTAATT AAGCCGCGTC GTGGTACCGG ACTTTATTGG AGACTTTCTC CTTGAACCAA TCCATGGAAG ACTCCGCCTT

hhal/cfol nlallI

ncol dsal bsaJI

dpnII(dam-) asel/asnI/vspI

alwI(dam-) asp700

nlaIII

mnli ddel acil

acc651

mn I I

mul I

asp718

rsal

haeIII/palI

taqI[dam-] tru9I

claI/bsp106[dam-]

mbol/ndeII[dam-]

gau3AI

dpnI(dam+)
dpnII(dam-)

pvuI/bspCI

ncrl

haeI

fnu4HI styl

nsel

Bau3AI

mbol/ndell[dam-]
dpn1[dam+] xmn1

bbv1 hinPI

nlaiv kpni hgiCi bani

mval	ecoRII	dsav	bstni	apyI [dcm+]	BEXAI	AGTCAGCAAC	TCAGTCGTTG								acil fokl.	TCCCCCATC	AGGCGGTAG	
ppu10I	nsil/avallI	nlaili	Idqs	Idsu	Ingen	GCAAAGCATG CATCTCAATT	CGTTTCGTAC GTAGAGTTAA								acil	ACCATAGICC CGCCCTAAC	TGGTATCAGG GCGGGGATTG	
mvaI	ecoRII	dsaV	bstni	apyI[dcm+]	bsaJI	GGTGTGGAAA GTCCCCAGGC TCCCCAGCAG GCAGAAGTAT GCAAAGCATG CATCTCAATT AGTCAGCAAC	CACACCTTT CAGGGTCCG AGGGTCGTC CGTCTCATA CGTTTCGTAC GTAGAGTTAA TCAGTCGTTG			ppu101	nsil/avall1	nlaIII	sphI	nspl sfani	Ilidsu	NGGCAGAAGT ATGCAAAGCA TGCATCTCAA TTAGTCAGCA ACCATAGTCC CGCCCCTAAC TCCGCCCATC	ICCGTCTTCA TACGTTTCGT ACGTAGAGTT AATCAGTCGT TGGTATCAGG GCGGGGATTG AGGCGGGTAG	
	•	•					•	nlaIV			,	nla		apyI[dcm+]		_	-	
			aluI	IInad	IBqan	2401 AGAACCAGCT GTGGAATGTG TGTCAGTTAG	TCTTGGTCGA CACCTTACAC ACAGTCAATC	n	SCIFI	Inval	ecoRII	dsav	bstnI	apyI	bsaJI	2501 CAGGTGTGA AAGTCCCCAG GCTCCCCAGC	GTCCACACCT TTCAGGGGTC CGAGGGGTCG	

=<u>|</u>G. <u>6</u>]

CCCCCCTAA CTCCGCCCAG TTCCGCCCCAT TCTCCGCCCC ATGGCTGACT AATTTTTTT ATTTATGCAG AGGCCGAGGC CGCCTCGGCC TCTGAGCTAT GGCGGGGATT GAGGCGGGTC AAGGCGGGTA AGAGGCGGGG TACCGACTGA TTAAAAAAA TAAATACGTC TCCGGCTCCG GCGGAGCCGG AGACTCGATA

acil bsall

acil

acil

2601

barī

haeIII/pall bsaJI mnll aluI

haeIII/palI mn l I

nlaIII

styI ncol bslI dsal

mulI

Enu4HI bglI sfil

haeIII/palI

mnll bsaJI acil

SCIFI

mva∫

sau96I

nlaIV

15/27

sau96I

fnutHI asuI apyI{dcm+} 2701 TCCAGAAGTA GTGAGGAGGC TTTTTTGGAG GCCTAGGCTT TTGCAAAAAG CTGTTAATTC GAACACGCAG ATGCAGTCGG GGCGGCGGG TCCCAGGTCC AGGICTICAT CACICCICCG AAAAACCIC CGGAICCGAA AACGITITIC GACAATIAAG CIIGIGCGIC IACGICAGCC CCGCCGCGCC AGGGICCAGG bsh1236I avaII hhal/cfol asul ecoR11 bstnI bstUI dsaV acil acil bsaJI fnuDII/mvnl avall hinPI thaI sfani bsici bstBI asull alul msel taqi Injs *start pUC118 tru91 hae!![/pal] bsaJl stul rmal hael mael mnll avril bluI styl

"IK promoter

mbol/ndeII[dam-] hincil/hindil acil dpnii[dam-] bsmAl bglii dpnii damdpnI[dam+] mbol/ndeII[dam-] bclI[dam-] gau3AI bstYI/xhoII dpnI[dam+] sau3AI fnu4HI acil msel hgal tru91 fnu4HI bbvI scfl psti 1 bsq haeIII/pall hael taql hphi bshi2361 mail fnuDII/mvnI afllll bstul thal mlul msel maelll tru91 hgal

tn5 neomycin phosphotransferase gene.

2801 ACTICCCATA TIAAGGIGAC GCGIGIGGCC ICGAACACCC AGCGACCCIG CAGCGACCCG CITAACAGCG ICAACAGCGI GCGGCAGAIC IGAICAAGAG TGAAGCGTAT AATTCCACTG CGCACACCCG AGCTTGTGGC TCGCTGGGAC GTCGCTGGGC GAATTGTCGC AGTTGTCGCA CGGCGTCTAG ACTAGTTCTC

FIG. 6J

mnlI mnll

bsp1286

bmyI

bari

mnlI

hpaII Idsm

DspMI

nlaIII

fokI alwI[dam-]

bsaB1 [dam-] mam1[dam-]

eagl/xmalII/eclXI

eaeI cfrI

haeIII/palI fnu4HI acil

mbol/ndeII[dam-]

gau3AI

dpnII[dam-] dpnI[dam+]

mn 1 I

BCrI

2901 ACAGGATGAG GATCGTTTCG CATGATTGAA CAAGATGGAT TGCACGCAGG TTCTCCGGCC GCTTGGGTGG AGAGGCTATT CGGCTATGAC TGGGAAAC TGTCCTACTC CTAGCAAAGC GTACTAACTT GTTCTACCTA ACGTGCGTCC AAGAGGCCGG CGAACCCAACC TCTCCGATAA GCCGATACTG ACCCGTGTTG

16/27

bsp1286 bmy1 nlaIV hgici DanI

narl scrFl

nlaIV

kasI ncil

hinl1/acy1 hqiCI mspI

hha1/cfo1

hinPl

bagi pstI acf1

hpall Idsm

DsaWI

1001 AGACAATGG CTGCTCTGAT GCGGCGTGT TCCGGCTGTC AGCGCAGGGG CGCCCGGTTC TTTTTGTCAA GACCGACCTG TCCGGTGCCC TGAATGAACT TCTGTTAGT CTGGCTGGAC AGGCCACGG ACTTACTTGA

haell hpall

ban I dsav

ahaII/bsaHI

hinPl

caull

hha1/cfoI

hpa11 Idsm

sfawl ball

fnu4HI acil

fnu4HI

DbvI

					fnu4HI	barl bbvI	1101 GCAGGACGAG GCAGCGCGGG TATCGTGGCT GGCCACGACG GGCGTTCCTT GCGCAGCTGT GCTCGACGTT GTCACTGAAG CGGGAAGGGA CTGGCTGTA	EGICCIGCIC CGICGCGCCG AIAGCACCGA CCGGIGCIGC CCCCAAGGAA CCCGICGACA CGACCIGCAA CAGIGACTIC GCCCIICCCI GACCGACGAI
				eco57I	aspl	maelll acil	TCACTGAAG CGG	AGTGACTTC GCC
hglAI/aspHI bsp1286		IHKAI	λI	maeII	tth1111/asp1	tagI m	CCTCGACGTT G	CGAGCTGCAA C
hg bs.	Poul I fud#HI	bbvI bsiHKAI	hinPI bmyI	hhaI/cfol	mstl nspBII	aviII/fspI	rccrr ccccaccrcr	AGGAA CGCGTCGACA
		haelII/palI	bali				CACGACG GCCGTT	GIGCIGC CCCCAA
,	Iuv	hae	mscI/ball	haeI	eael	cfrI	Arcerecer eec	TAGCACCGA CCG
fnu4HI thaI	fnuDII/mvn] bstUI	bsh12361	hinpi	fnu4HI	bbvI acil	mnll hhal/cfol	AG GCAGCGCGC 1	re cerececes A
						Ē	3101 GCAGGACG	כפדככדפכי

SUBSTITUTE SHEET (RULE 26)

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1	7	/	2	7
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	17/27	
<pre>gaulAI mbol/ndell[dam-] dpn1[dam+] alv1[dam-] alv1[dam-] .TACGCTTG</pre>	m-] 51 511 FI/ksp6321	
fnu4HI fnu4HI acii fnu4HI acii bbvi r GCGCCGCTG CA	sau3AI fokI sau3AI dpn1[dam+] mbol/nde11[dam+] s dpn1[dam+] n dpn1[dam+] e taq1[dam-] dpn11[dam-] TC GATCAGGATG ATCTGGACG	
nlaiii sfani TCCATCATGG CTGATGCAN AGGTAGTACC GACTACGTT	mspl hpall foki ef101 t ggarggaag cggrerrg	T ≪ E n e u
TTGCTCCTGC CGAGAAAGTA AACGAGGACG GCTCTTTCAT	real csp61 bsaAI bsaAI hgiAI/aspH1 bsp1286 taqI bsiHKAI sfaNI bmyI maeII cc CATCGAGCGA GCACGTACTG	sphinspinspinsphinsphippinsphippinsphippinspinspinspinspinspinspinspinspinspi
ncii saulAi [nu4H] sallonnoii dam-] mspi mbol/ndeii[dam-] hpaii dpni[dam+] dsay dpnii[dam-] cauli bstYi/xhoii hphi bsaJi alvi[dam-] hphi TTGGCGAAG TGCCGGGGCA GCATCTCTC TCATCTCTG CTGATGCTTG CTGATGCTA CCGCCGCT CATACGCTTG AACCCGCTTC ACGCCCCGT CCTAGAGCAC GATACGCAAC GATACGCAAC GATACGCAAC AACCCGCTTC ACGCCCCGT CCTAGAGCAC AACGAGGAC GCTCTTTCAT AGGTAGTACC GACTACGTTA CGCCCCGAC GTATGCGAAC	real csp61 bsaAI bsaAI bsaAI bsaAI bsaAI bsp1286 mspI hpaII bspHI taqI ATCCGCTAC CTGCCCATC GCACCACCAC CTACCTTC GCTCTTGT GATCTAC TAGACCTCT TAGCCCCATG GACACATC GTACCTCGT CTGCCTTGTT GATGCTAC TAGACTCTTCTTC TAGCCCCATG GACACATC GTACCTCGT CTGCCTTTCT GCTCTTAC TAGACCTCTTTCTTC TAGCCCCATG GACACATCC CTGCCTTCTTC GCTCTTAC TAGACCTCTTCTTC TAGCCCCATG GACGCTAC CTAGCTCCT CTGCCTTCTTC GCTCTTAC TAGACCTCTTC TAGCCCCATG GACGCTAC CTAGCTCCT CTGCCTTCTTC GCTCTTAC TAGACCTCTTCTTC TAGCCCCATG GACGCTAC CTAGCTCCT CTGCCTTCTTC GCTCTTAC TAGACCTCTTCTTC TAGCCCCATG GACGCTAC CTGCTTAC TAGACCTCTTCTTCTTCTTAC TAGACCTCTTCTTCTTAC TAGACCTCTTCTTCTTAC TAGACCTCTTCTTCTTAC TAGACCTCTTCTTCTTAC TAGACCTCTTCTTCTTAC TAGACCTCTTCTTCTTAC TAGACCTCTTCTTCTTAC TAGACCTCTTCTTCTTAC TAGACCTCTTCTTCTTAC TAGACCTCTTCTTAC TAGACCTCTTCTTAC TAGACCTCTTCTTAC TAGACCTCTTCTTAC TAGACCTCTTCTTAC TAGACCTCTTCTTAC TAGACCTCTTCTTAC TAGACCTCTTCTCTT	Id
BCIFI ncii mspi hpaII dsaV cauII bsaJI 3201 TTGGCGAAG TGCCGGGGCA AACCCGCTTC ACGCCCGT	rsal csp61 bsaAI bsaAI bsaAI bsaAI bsp1286 taq1 bsiHKAI taq1 bmyl maell fokl cfr101 taq1[dam-] dpn1[dam-] tag2 carcacarc carcacarc carcacarc cracacarc racacarc	IAUPI
326	n n	

FIG. 6L

3401 AGAGCATCAG GGGCTGGCGC CAGCCGAACT GTTCGCCAGG CTCAAGGCGC GCATGCCCGA CGGCGAGGAT CTCGTCGTGA CCCATGGCGA TGCCTGCTTG TCTCGTAGTC CCCGAGCGCG GTCGGCTTGA CAAGCGGTCC GAGTTCCGCG CGTACGGGCT GCGCTCCTA GAGCAGCACT GGGTACCGCT ACGGACGAAC

bsaJI sfaNI

alw1[dam-]

hhal/cfol

bstNI

dsav hinPf nlafff

ecoRII bsh1236I

apy1[dcm+] bssHII

banII hhal/cfol bayl bsh1236I

bsp1286

mnll

styl

mbol/ndeII[dam-] dpnI (dam+)

scrfl fnuDII/mvnf

bstul

mva i

fnuDII/mvnf bstUI

thal

sau3AI

ncol dsaI

dpnII[dam-] bstT1/xhoI1 maeIII nlaIII

.

mspl ball hpall sau961 fnu4HI cfrl01 avall haelII/pall haelII/pall rsrII/cspl eael tfil eael cpol nlalII cfrl hinfl taql cfrl gGCTTATAGT ACCACTTTT ACCGCGAAA AGACTAAGT GGCGCACC GGCGCACC GGATAGTCT GTATCGCAAC CGATGGCACC GGCTTATAGT ACCACTTTT ACCGCGAAA AGACTAAGT GGCGCACC GGCGCACC GGCGCACC GGATAGTCT GTATCGCAAC CGATGGCCACC	hinpl mboll fnu4Hl earl/ksp6321 eco571 alul acil acil mnll fnu4Hl hinfl bbv1 sfaNl 3601 ATATACCACA AGAGCTTGCC GCCTAACC GACTGCCAA AGAGCACCC TAGCCCTACT TACCCATAGC GCCGAGGCC AAGCGTCGC TAGCGGAAGA TAGCGGAAGA	taq1 sful bstul ddel ple1 bsiC1 hinlI/acyl tfil acil mboll bsrBl hinfl asull ahall/bsaHl taq1 acil 1701 TGACGAGTTC TTCTGAGCGG GACTCTGAGC CGACCCAAC CTGCCATCA CGAATTTCA AGGTGGCG CGAAGATAC ACTGCTCAAG AAGACTCGC CTGAGACCCC AAGCTTTACT GCTGGTTCG CTGCGGTTG GACGCTAGTG CTCTAAAGCT AAGGTGGCGG CGGAAGATAC
acil fnu4HI haeIII/pall eael tfil sol cccatatca tGTGGAAAA TGGCCGTTT TCTGGATTCA TGGACTG	sapi mboli fnu4Hi earl/ksp6321 eco571 alul acii acii mnli 3601 ATATTGCTGA AGACCTTGGC GGCGAATGGG CTGACCGCTT CCTCGTA TATAACGACT TCTCGAACCG CCGCTTACCC GACTGGCGAA GGAGCA	taqi sfui sfui ddei plei bstBi mboli bsrBi hinfi asuli 3701 TGACGAGTTC TTCTGAGCGG GACTCTGGGG TTCGAAATGA CCGACC

Caull

bsaJI

bsaJI bsaJI

Iloqu

xma I/pspAI

SCIFI

bstY1/xholI

gsul/bpml

ahall/bsaill

BCLFI

ncil

hinl1/acy1

thal sau3AI bsll fnuDi1/mvnl hinPl alwi[dam-]

mn][

SmaI

ncil

Imdd/Iusp

mbol/ndeII[dam-] mbol/ndeII[dam-]

hha1/cfol

sau JAI

dpnI(dam+) bstUI dpnI(dam+)
dpnII(dam-) acii dpnII(dam-)

hpall

hpall

nael

dsaV

hinfI

3801 AAAGGIIGGG CTICGGAAIC GIITICCGGG

Idsm

cfr101 fokl alwl[dam-] bsh12361

hpaII

Idsm

dsaV cauII

bslI

BCrFI

nci 1

19/27

ACGCCGGCTG GATGATCCTC CAGCGCGGG ATCTCATGCT GGAGTTCTTC GCCCACCCCG GGAGATGGGG

nlaIII

HSV1 tk terminator Smal-PvuII

TITCCAACCC GAAGCCTIAG CAAAAGGCCC TGCGGCCGAC CTACTAGGAG GTCGCGCCCC TAGAGTACGA CCTCAAGAAG CGGGTGGGGG CCTCTACCCC

hha I/cfoI

thaI

hinPI

GCTCTGGGGT AACCCCGGTT ATGCGGGGGC AAAGAAGGAA AAGGGGTGGG 4001 TCATAAACGC GGGTTCGGT CCCAGGGCTG GCACTCTGTC GATACCCCAC CGAGACCCCA TTGGGGCCAA TAGGCCCGCG TTTCTTCCTT TTCCCCACC GAGGCTAACT GAAACACGGA AGGAGACAAT ACCGGGAAGGA ACCCGCGCTA TGACGGCAAT AAAAAGACAG AATAAAACGC ACGGGTGTTG GGTCGTTTGT CTCCGATTGA CTTTGTGCCT TCCTCTGTA TGGCCTTCCT TGGGCGCGAT ACTGCCGTTA TITITCTGTC TTATTTTGCG TGCCCACAAC CCAGCAAACA Iloqu fnuDII/mvnI **bsh1236I** bstul acil thaI haeIII/pall 196nes asuI nlaIV bs 1 I **bsmAI** bsal Invm/IIQun] **bsh1236I** AGTATTTGCG CCCCAAGCCA GGTCCCCGAC CGTGAGACAG CTATGGGGTG bstul bsawl nlalv acif tagi hpa11 asul apyl[dcm+] **DSmAI** ecoRII bsaJI **bstNI** dsaV BCrFI mval bsaJI ball Bau96I nlaIV avaII funDII/mvnI bsh1236I bstul acti thaI mn 11 3901

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	20/27				
bsli sau961 nlaIV avali styl avali styl asul ncol ppuMI dsaI nlaIV bsaJI eco01091/draII tth1111/aspI nlaIII	fok FTTTGGN MAMAACCT	bstUI hhal/CfOI bsh1236I nlaIV hinPI narI thaI kasI fnuDII/mvnI hinlI/acyI bstUI hqiCI bsh1236I haeII aciI banI bslI hhal/CfOI ahaII/bsaHI A CCACCGCGC GATTTCTGGC T GGTGGCGCC CTAAGACG			
	dde I CTGAGCAGAC GACTCGTCTG	thai fuub ACACCCCGA CCCCAAAAA CC TGTGGGGGCT GGGGTTTTT GG			
	sau961 aval1 asul bsrl Attettitig geottaggte Caegaetgga taagaaaace egeaegeae eecagteeag gigetgaeee	mval sau961 mval thai scrfi dsaV rsal fnuDII/mvnl ncil bstNl avalI nlaili bstUl hpaII bsaJI nlaili nspHI bsrl bshl2361 dsaV hgaI fnu4HI apyl[dcm+] acil csp61 hhai/cfoi cauli bbvI GCCTGGCCAT GCACCCCTAC ACACCACCC GCCCCTAC ACCCCCCCAAAAA CCGACCCCTAC CTGCCGTAC ATGACCGCGC TGTGCTTGTG GCCCCCACACAT TGTGCGGGCT GCCCTTTTT			
hgiJII bsp1286 bmy1 scrf1 mva1 ecoRII dsay bstNI bsaJI apy1[dcm+] bsaJI apu1[dcm+] bsaJI anu961 bsaJI sau961 bsaJI sau961 corcccaGGC CTCGCAGCCAGGC CTCGCAGGC CTCCAGGC CTCGCAGGC CTCGCAGCCAGGC CTCGCAGGC CTCGCAGCCAGGC CTCGCAGGC CTCGCAGGCCAGGC		hin 1961 thal scrFI rsal fnuDII/mvnI ncil iII nlaIII bstUI m i nspI hinPI h nspHI bsrI bsh1236I d acil csp6I hhal/cfoI c CCGCATG TACTGGCGCG ACACGAACAC			
bsli hphi bsli hphi 4101 CAACCCCAA GTTCGGGTGA GTTGGGGGTT CAAGCCCACT	ATGGGGAATG GTTTATGGTT CGTGGGGGTT TACCCCTTAC CAATACCAA GCACCCCCAA	scrFI mval sau961 ccoRII tasal f bstNI avaII nlaIII bslI asuI nsplI apy1{dcm+} aciI csp GCCTGGCCAT GGACCGCATG T			
4101	4201	4301			
SUBSTITUTE SHEET (RULE 26)					

21/27

fnuDII/mvnI bstul acil thaI

sacil/sstil haelII/pall bsh12361 nspBII kspI MCrl

hphI eag1/xmaIII/eclXl bsaJI dsal

hinPI

dsaI

maeIII bstEII mnll hhal/cfof

bsaJl

eael cfrI

acil

eco47III haeII

csp61 rsal

mbol I

sfani

GCCGCCGGAC GAACTAAACC IGACTACGGC AICICIGCCC CTICITCGCI GGTACGAGGA GCGCTITIGI ITIGIATIGG ICACCACGGC CGAGTIICCG bslI

COGCOCCTG CTTGATTTGG ACTGATGCCG TAGAGACGGG GAAGAAGCGA CCATGCTCCT CGCGAAAACA AAACATAACC AGTGGTGCCG GCTCAAAGGC fnu4HI

nlarv hgict

BCIFI

4401

hpall Idsm

hinPI mspI bstul bsawI fnuDII/mvnI hha I/cfoI hpaII thaI

nlaIII bcdI fnu4HI

aluI

acil ball

bsh12361

CCCCCCCAC CCCAAGGAGC occecerc ecerteres

GCGCCGACGA TAGTCATGCC aciı

bpuAI Iloqu bbsI

CGGGACCCCG GCCAGGGCAC CTGTCCTACG AGTTGCATGA TAAAGAAGAC AGTCATAAGT nlalII

^pBR322 sequence

GECETGGGGE EGGTECEGTG GACAGGATGE TCAACGTAET ATTIETTET TEAGTATTEA CGECGETGET ATCAGTACGG

4501

bsp1286

cfrI

asuI

avall eael

nlalV haeIII/pall

ecoR11

bslI

mva1

Caull

scrFl

dsaV

ncil

bstnI

bsaJI bslI

dsav

bsaJl

sau961

ppuMI mspI apyI[dcm+]

bmyI

nlalV hpall

eco01091/draII ban1

SUBSTITUTE SHEET (RULE 26)

bslI avaI

bari

hinfI pleI

hinfl maell

drdI

mae!! ple!

tru91 msel

bs] I

asul

bsaAI

hphI

480) CAAGCTCTAA ATCGGGGGT CCCTTTAGGG TICCGATITA GIGCTTTACG GCACCTCGAC CCCAAAAAC TIGATTIGGG IGAIGGTICA CGTAGIGGGC

banl mnll

nlaIV

banII

aluI

GTTCGAGATT TAGCCCCCGA GGGAATCCC AAGGCTAAAT CACGAAATGC CGTGGAGCTG GGGTTTTTG AACTAAACCC ACTACCAAGT GCATCACCG

bbri 4601 TGACTGGGTT GAAGGCTCTC AAGGGCATCG GTCGAGCGGC CGCATCAAAG CAACCATAGT ACGCGCCCCTG TAGCGGCGCA TTAAGCGCGG CGGTGTGGT

bsrBI acil

ncrl

aciI

fnu4HI

ACTGACCCAA CTICCGAGAG TICCGIAGE CAGCTGGCG GCGIAGIIIC GIIGGIAICA IGCGCGGGAC AICGCCGCGT AATICGCGCC GCCCACACA

'Hl3 ori ^delta 3

> fnu4HI hinpi

osydata dasydy

fnuDII/mvnI

bstul

fnuDII/mvnI

hinpi thaI

eag1/xmaIII/eclXI

eaeI notI

haeIII/palI fnu4HI

BCrl

bstul scfl bsh1236I

hinpi

fnu4HI

thaI

hhal/cfol hhal/cfol

tru91 acil

fnu4HI

rsal hhal/cfol

22	/	27

22	/	2	7							
					ccct	GGCCA			haeIII/palI	I96nes
		H		-	CTTTC	CAMC			maeII	drallI
	Idsm	hpall	naeI	maell cfr101	992292	ည္သည္သ			8	d r
				naell	A CCTT	გ ე				
				-	4701 GGTTACGCGC AGCGTGACCG CTACACTIGC CAGCGCCCTA GCGCCCGCTC CTTTGGCTTT CTTCCCTTCC	ccaatgegeg tegeactgge gatgtgaacg gtegegggat egegggegag gaaagegaaa gaaggaagg aaagageggt geaageggee gaaagggger				
					CCTTCC	CCAACC				
				Iloqu	T CTTC	A CAAG				
				_	rcccrr	ACCG ≯				tagi
					C CH	₹ 8 8			nlaIV	hgiCI
hinpi hhai/cfoi	ì		bsrBI	acil	CCCCT	GGGCGA				
hinPI hhai/	rmaI	haeII	Io		S CC	D D D				
	E	hinPI haeII	ha I/cf	haell mael	CCCCT	CCCCCA				
		£	£	ğ	S CAG	5. 5.				
					CACTTO	GTGAAC				
			aciı	H	8 3	SC GAT	ΑIV	hgiJII	bsp1286	—
H	In		Ŕ	maeII	GTGAC	S CT CT CT CT CT CT CT CT CT CT CT CT CT	n	hgi	psp	Dmy
hhai/cfoi	fuuDII/mvnI	H	bsh1236 I	bvI)C AGG	ည် သ				
hhaI thaI	funt	bstuI	bsh)	maeili bbvi maeili	TACCC	ATCCC				
				E	1 CCT	ຽ				
					470					

4901 CATCGCCTG ATAGACGGTT TTTCGCCCTT TGACGTTGGA GTCCACGTTC TTTAATAGTG GACTCTTGTT CCAAACTGGA ACAACACTCA ACCCTATCTC GTAGCGGGAC TATCTGCCAA AAAGCGGGAA ACTGCAACCT CAGGTGCAAG AAATTATCAC CTGAGAACAA GGTTTGACCT TGTTGAGT TGGGATAGAG

FIG. 60

apol tru91 mseI

tru9I

msel bstur

tru91

tru9I mse] aluI

haeIII/palI

fnuDII/mvnI

thaI

23/27

bsmAI

bsrBI

DspHI rcal

acil nlaIII

5001 GGCCTATICT TITGAITIAT AAGGGAITIT GCCGAITICG GCCTATIGGI TAAAAAAIGA GCIGAITIAA CAAAAAIITA ACGCGAAITI TAACAAAAIA cccataaga aaactaaata teccctaaaa cggctaaagc cggataacca attititact cgactaaatt gtitttaaat tgcgcttaaa attgititat ahaII/bsaHI hinl1/acy1 **bsh1236I** maell ddeI aatII apol mse I nlaIII

tru91 rcal

haeIII/palI

psp1406I maell

tru91

5101

stuI

mn l I

AATTGCAAAT GTTAAAATAC CACGTCCGGA GCACTATGCG GATAAAATA TCCAATTACA GTACTATTAT TACCAAAGAA TCTGCAGTCC ACCGTGAAAA TTAACGTTTA CAATTITATG GTGCAGGCCT CGTGATACGC CTATTTTTAT AGGTTAATGT CATGATAATA ATGGTTTCTT AGACGTCAGG TGGCACTTTT msel bspHI *delta 2a haeI msel

fnuDII/mvnI nlaIV acil bstuI LhaI

bsh1236I hinpi

hha1/cfoI

CGGGGAAATG IGCGCGGAAC CCCTATTIGI ITATTITICI AAATACATIC AAATATGTAT CCGCTCATGA GACAATAACC CTGATAAAG CTTCAATAAT GCCCCTITAC ACGCGCCTIG GGGATAAACA AATAAAAAGA TITATGTAAG TITATACATA GGCGAGTACT CTGTTATTGG GACTATTTAC GAAGTTATTA CGGGGAAATG

5301 ATTGAAAAG GAAGAGTATG AGTATTCAAC ATTTCCGTGT CGCCCTTATT CCCTTTTTG CGGCATTTTG CCTTCCTGTT TTTGCTCAC CAGAAACGCT earI/ksp632I Iloda

hgiAI/aspHI **bsp1286**

TAACTITITIC CTICICATAC TCATAAGTIC TAAAGGCACA GCGGGAATAA GGGAAAAAAC GCGGTAAAAC GGAAGGACAA AAACGAGTGG GTCTTTGCGA

hphI

fnu4HI

acil

DSIHKAI mbol/ndelI[dam-] dpn1[dam+] bmy1 Bau3AI

mbo1/ndeI1[dam-]

sau3AI

mbol/ndeII[dam-]

sau3AI

dpnII[dam-

alw[[dam-]

nspBII

bsrI

dpnI[dam+]

dpnII[dam-] bstYI/xhoII

dpn I [dam+]

dpnII[dam-] eco57I

apaLI/snoI sfani mboli[dam-]

5401

GGTGAAAGTA AAAGATGCTG AAGATCAGTT GGGTGCACGA GTGGGTTACA TCGAACTGGA TCTCAACAGG GGTAAGATCC TTGAGAGTTT TCGCCCCGAA CCACTITCAT TITCTACGAC TICTAGICAA CCCACGIGCI CACCCAAIGI AGCIIGACCI AGAGIIGICG CCAIICIAGG AACICICAAA AGGGGGGCII bstYI/xhoII alwI[dam-] acil alw441/snoI maeIII taqI

bsrI tru9I msel

maeII hhaI/cfoI avill/fspl

> fnu4HI bbvI

psp14061

mstI

GATGACGCCG GGCAAGAGCA ACTCGGTCGC CGCATACACT

mcrI fnu4HI acil

bcgI

ahaII/bsaHI

hinll/acyI

hgaI

caull

fnuDl I/mvn f

acil

thaI

bsh12361

bstul

hpa11

Idsm dsaV

SCIF1 ncil CTTGCAAAAG GTTACTACTC GTGAAAATTT CAAGACGATA CACCGCGCCA TAATAGGGCA CTACTGCGGC CCGTTCTCGT TGAGCCAGCG GCGTATGTGA

hha I/cfol

hinPI

GAACGITITC CAAIGAIGAG CACTITIAAA GIICIGCIAI GIGGCGCGGI ATTAICCCGI

ahalll/dral

bmyI

asp700 Iumx

5501

bsp1286 tru91 bsiHKAI msef

psp14061 maelI

hgiAI/aspHI

, }	/	27		

24/	27	
nlalil CCATGAG GGTACTC	<pre>sau3AI mbol/ndeII[dam-] dpnI[dam+] dpnII[dam+] CCTTGAT</pre>	
fnu4HI bbvI SAATTATGC AGTGCTGCCA TAA TTAATACG TCACGACGGT ATT	nlaIII saulAI maeIII mbol/ndeII[dam-] dpnI[dam+] alwI[dam-] nlaIII dpnII[dam-] ACATGGGG ATCATGTAAC TCG	hinpi
foki nlaiii NCGGATGGCA TGACAGTAAG AG TGCCTACCGT ACTGTCATTC TC	alul acil AGCTAACGC TTTTTTGCAC AA	
rI maeIII sfaNI CAGTCACAGA AAAGCATCTT / GTCAGTGTCT TTTCGTAGAA 1	sau96I avalI sau1AI asuI mbol/ude1I[dam-] dpn1[dam+] pvu1/bspCI mcrI mn1I	
sep61 bsr1 ddeI scal hphI maeIII sfaNI fokI nlaIII bbvI nlaIII 5601 ATTCTCAGAA TGACTTGGTT GAGTACTCA CAGTCACAA AAAGCATCTT ACGCATGCCA TGACAAGAATTATGC AGTGCTGCCA TAACCATGAG TAAGAGTCTT ACTGAACCAA CTCATGAGG GTCAGTGTCT TTTCGTAGAA TGCCTACCGT ACTGTCATTC TCTTAATACG TCACGAGGT ATTGGTACTC	sau961 aval1 sau13A1 asu1 haelII/pal1 mbol/ndel1[dam-] eael dpn1[dam+] dpn1[dam+] fnu4H1 pvu1/bspCl acii nnll acii nlaIII dpn1[dam-] dpn acii acii acii alul acii nlaIII dpn1[dam-] dpn acii acii alul acii nlaIII dpn1[dam-] dpn acii acii alul acii nlaIII dpn1[dam-] dpn acii acii acii alul acii nlaIII dpn1[dam-] dpn acii acii acii alul acii acii acii acii acii acii acii aci	
ddeI 5601 ATTCTCAGA TAAGAGTCT	5701 TGATAACAC ACTATTGTG	

FIG. 6S

5801 CGTTGGGAAC CGGAGCTGAA TGAAGCCATA CCAAACGACG AGCGTGACAC CACGATGCCA GCAGCAATGG CAACAACGTT GCGCAAACTA TTAACTGGCG GCAACCCTTG GCCTCGACTT ACTTCGGTAT GGTTTGCTGC TCGCACTGTG GTGCTACGGT CGTCGTTACC GTTGTTGCAA CGCGTTTGAT AATTGACCGC

sfaNI

maeIII

aluI

hpall **DSAWI** nlaIV

SUBSTITUTE SHEET (RULE 26)

	eam11051 G G	
CTGGCTGGTT	eal TATCTACACG ATAGATGTGC	GTTACTCAT
bglI sau961 haeIII/palI asul mspl fol hpaII G GCCCTTCCGG	TATCGTAGT	TCAGACCAA
bgli sau961 sau961 haelil/pall i bsri acil avali hinPl asul mspl /asnl/vspl mnli asul hhal/cfol hpall AATAGACTG GATGAAGTTG CAGGACCACT TCTGCGCTGG GCCCTTCCGG CTGGCTGTT	acil thai funDII/mvnI sau96I bstUI asuI bsal bsh1236I bbvI bsrI haeIII/palI mnll cGGTCTCGC GGTATCGTAGT TATCTACACC	ddel sau3AI nla1V mbol/ndeIl[dam-] mnl1 dpn1[dam+] hgiCl tru9! dpn1[dam+] ban1 msel mae]]! ATAGACAGA TCGCTGAGAT AGCTGCTCA CTGATTAAGC ATTGGTAACT GTCAGACCAA GTTTACTCAT
sau961 avaII asuI CAGGACCACT	sau961 asu1 laIV haeIII/palI GG GCCAGATGGT	tru9I msel CTGATTAAGC
II S GATAAAGTTG CTATTTCAAG	sau961 asu1 fnu4HI nlaIV bbvI bsrI haeIII/palI G CAGCACTGGG GCCAGATGG	ddel nlalV mbo!/ndeI![dam-] mnl! dpn![dam+] hgiC! dpn![[dam-] ban! .CA TCCCTGAGAT ACCTCCTCA
foki acii pi mnli G GATGGAGGG (acil thai fnuDil/mvni bstUi i bshl2361 b CGC GGTATCATTC	ddel sau3AI mbol/ndell[da dpn1[dam+ dpn11[dam- CA TCCTCAGA:
	acil thai flubli/m bstui bsmai bsai bshi236i TGGGTCTCCC GGTA	sa mb dp dp AATAGACAGA
mspi hpali scrFi aluf ncii tru rmal dsav mse mael cauli asel AACTACTTAC TCTAGCTTCC CGGCAACAAT T	mspl hpall cfrl01 nlalV hphl ul/bpml GGAG CCGTGAGCG	fok1 GGATGAACGA CCTACTTGCT
mspi hpai scrFi alui ncii rmai dsaV maei cauII TCTAGCTTCC CG	mspl hpail cfr101 nla1V hphi gsul/bpml tattgctgat Aaatctggag ccggtgagcg	pleI hinfI ACGGGGAGTC AGCCACTAT GGATGAACGA TGCCCCTCAG TCCGTTGATA CCTACTTGCT
mspi hpali scrFi aluf ncii ti rmal dsav ms mael cauli ase 5901 AACTACTTAC TCTAGCTTCC CGGCAACAAT	mspI hpaII cfr10I nla1V hphI gsul/bpm1 6001 TATTGCTGAT AAATCTGGAG CCGGTGAGCG	pleI hinfI 6101 ACGGGAGTC AGGCAACTAT GGATGAACGA TGCCCTCAG TCCGTTGATA CCTACTTGCT
5901	6001	6101

FIG. 6T

TTTAATTTAA AAGGATCTAG GTGAAGATCC TTTTTGATAA

alwi[dam-] mboli[dam-]

msel msel

ahaIII/draI

tru9I mseI 6201 ATATACTITA GAITGAITIA AAACTICATI

TCTCATGACC AAAATCCCTT AACGTGAGTT

rcal bspHI

maell

nlaIII

dpn11[dam-

dpn I [dam-]

tru91

dpn1[dam+]

alwi | dam- |

dpnI[dam+]

mbol/ndell[dam-]

bstYI/xhoII

bstY1/xho11

ahalll/dral mael

mbol/ndeII[dam-]

sauJAI

rmal

sau 3A I

hphI

tru91 mse1

6301 TICGITCCAC IGAGGGICAG ACCCGIAGA AAAGAICAAA GGAICTICIT GAGAICCTIT ITITCIGGG GIAATCIGCT GCTIGCAAC AAAAAACA AAGCAAGGIG ACICGCAGIC IGGGGCAICI ITICIAGIII CCIAGAAGAA CICIAGGAAA AAAAGACGC CAITAGACGA CGAACGIIIG IIIIIIIGGI

mpol/ndell[dam-]

sau3AI

dpnII[dam-] dpnI[dam+]

alwI[dam-]

fnadHI

bsh12361

bstuI

dpnII[dam-] alw1[dam-]

dpnI[dam+]

fuuDII/mvnI

mbol/ndell[dam-]

dpnI[dam+] sau3AI

dpn11[dam-] bstY[/xholl alwI[dam-]

nbol/ndeII[dam-]

sau3AI

bbvI

hha I/cfoI

bstYI/xhoII

dpn1[dam+] mbo11[dam-]

dpnII[dam-]

ddeI hgaI

mbol/ndell[dam-]

sau3AI

hinpi

26/27

rnal mael CCCTACCAG CGTGGTTTG TTTGCCGGAT CAAGAGCTAC CAACTCTTTT TCCGAAGGTA ACTGGCTTCA GCAGAGCGCA GATACCAAAT ACTGTCCTTC GGCGATGGTC GCCACCAAAC AAACGGCCTA GTTCTCGATG GTTGAGAAAA AGGCTTCCAT TGACCGAAGT CGTCTCGCGT CTATGGTTTA TGACAGGAAG TAGTGTAGCC GTAGTTAGGC CACCACTTCA AGAACTCTGT AGCACCGCCT ACATACCTCG CTCTGCTAAT CCTGTTACCA GTGGCTGCTG CCAGTGGCGA NTCACNICGG CAICAAICCG GIGGIGAAGI ICTIGAGACA ICGIGGCGGA IGIAIGGAGC GAGACGAIIA GGACAAIGGI CACCGACGAC GGICACCGCI CAGCTTGGAG ATTCAGCACA GAATGGCCCA ACCTGAGTTC TGCTATCAAT GGCCTATTCC GCGTGGCCAG CCCGAGTTGC CCCCCAAGCA CGTGTGTCGG GTCGAACCTC aluī beri fna4HI TGGACTCAAG ACGATAGITA 'CCGGATAAGG CGCAGGGGTC GGGCTGAACG GGGGGTTCGT GCACACAGC bbvI fnu4HI bbvI hglAI/aspHI alw44I/snoI apaLI/snoI bsp1286 **DSIHKAI** hha I/cfoI alvni bsrI bmyI hinpi maellI eco57I maelll En l nsp811 hinPl acif fuu4HI hha I/cfoI bbvI acil hpa I I **Dsawl** mae[]] scfl aluI hpaII Idem hinfi haeIII/palI plel haeI 6601 TAACTCCTGT CTTACCGGGT hpall BCLFI caull ncil Idsm dsaV acil IIBdeu ball

6501

PCT/US96/20718

APPROVED O.G. FIG SUBCLASS CLASS BY WO 97/24440 DRAFTSMAN

hpall

Idsm

the first of construction with the first construction of the first first

27/27

6701 CGAACGACCT ACACCGAACT GAGATACCTA CAGCGTGAGC ATTGAGAAAG CGCCACGCTT CCGGAAGGGA GAAGGCGGA CAGGTATCCG GTAAGCGGCA fnutHI GCTTGCTGGA TGTGGCTTGA CTCTATGGAT GTCGCACTCG TAACTCTTTC GCGTGCGAA GGGCTTCCCT CTTTCCGCCT GTCCAIAGGC CATTGGCGT acti bali **bsaWI** hha I/cfoI haeII

BCIFI

BcfI

bstNI dsav ecoRII MVal apy1[dcm+] ecoRII bstni bsaJI dsav mvaI

6801 GGGTCGGAAC AGGAGAGCGC ACGAGGGAGC TTCCAGGGGG AAACGCCTGG TATCTTTATA GTCCTGTCGG GTTTCGCCAC CTCTGACTTG AGCGTCGATT CCCAGCCTIG ICCICICGCG IGCICCCTCG AAGGICCCCC IIIGCGGACC AIAGAAAIAI CAGGACAGCC CAAAGCGGIG GAGACTGAAC ICGCAGCTAA hgaI mull drdI apyI[dcm+] hhal/cfol alul

asel/asnl/vspl GCCGACCCT ATGGAAAAAC GCCAGCTGCC ACGACAGGTT TCCCGACTGG AAAGCGGGCA GTGAGGGCAAA CGCAATTAAT tru9I AAACACTACG AGCAGTCCCC CCGCCTCGGA TACCTTTTTG CGGTCGACCG TGCTGTCCAA AGGGCTGACC TTTCGCCCGT CACTCGCGTT GCGTTAATTA msel hhaI/cfoI hinPI acii bari nspBII aluI DVuII nlaIV acil 6901 TITGIGATGC ICGICAGGGG

^deltal.PVU

SCIPI BVAI

ecoRII daav .

nlaIV bstNI

hgici apyi(dcm+) banl bsaJI mol1

GEGAGTTACC FCACTCATTA GGCACCCCAG GCTTTACACT TTATGCTTCC GGCTCGTATG TTGTGTGGAA TTGTGAGCGG ATACCATTT CACACAGGAA CACTCAATGG AGTGAGTAAT CCGTGGGGTC CGAAATGTGA AATACGAAGG CCGAGCATAC AACACACCTT AACACTCGCC TATTGTTAAA GTGTGTCCTT hpaII Idsm 7001 GIGAGITACC TCACTCAITA maeIII

acil barBI

> tru91 msel

asel/asnI/vspI XmnI

GAATTAA GGTACTAATG CTTAATT **asp700** 7101 ACAGCTATGA CCATGATTAC nlair **ICTCGATACT**

>length: 7127

aatii(GACGTC):